

CLAIMS

What is claimed is:

1. A composite cooking apparatus, comprising:
two different heat sources to heat food in a cooking container; and
a controller to control operations of heating and cooking the food by operating one or both of the two heat sources according to an operating mode.
2. The composite cooking apparatus according to claim 1, wherein the heat sources are a plane heater and an induction heater, respectively.
3. The composite cooking apparatus according to claim 2, further comprising a heat resistant glass plate to allow the cooking container to be seated thereon, wherein the plane and induction heaters are mounted below the heat resistant glass plate.
4. The composite cooking apparatus according to claim 3, further comprising an air discharge duct to discharge heated air to outside of the composite cooking apparatus, wherein the plane heater is mounted on a top of the air discharge duct, and the induction heater is mounted below the air discharge duct.
5. The composite cooking apparatus according to claim 4, further comprising a cooling fan motor mounted in the air discharge duct to forcibly blow air heated by heat radiated from the plane heater.
6. The composite cooking apparatus according to claim 4, further comprising a heat insulating material mounted to come into contact with the plane heater in a face-to-face manner to block heat radiated from the plane heater.
7. The composite cooking apparatus according to claim 6, wherein the heat insulating material is made of heat resistant material.
8. The composite cooking apparatus according to claim 7, wherein the heat insulating material is heat resistant up to a temperature of approximately 500°C.

9. The composite cooking apparatus according to claim 6, wherein the heat insulating material is made of material which transmits a magnetic field.

10. The composite cooking apparatus according to claim 2, wherein the controller operates both the plane and induction heaters if an operating mode for shortening a cooking time is set.

11. The composite cooking apparatus according to claim 10, further comprising:
a power supply unit to supply driving power to the plane heater;
an inverter to supply driving power of a predetermined frequency to the induction heater;
and
a current detecting unit to detect current of the inverter.

12. The composite cooking apparatus according to claim 11, wherein the controller determines a heat source suitable for material of the cooking container depending on the current detected by the current detecting unit.

13. The composite cooking apparatus according to claim 12, wherein the controller determines that the cooking container is suitable for induction heating if the detected current is equal to or greater than a set value, while the controller determines that the cooking container is suitable for plane heating if the detected current is less than the set value.

14. A method of controlling a composite cooking apparatus, the composite cooking apparatus including a plane heater and an induction heater, the method comprising:
setting a cooking command; and
heating and cooking food in a cooking container by operating one or both of the two heaters according to the set cooking command.

15. The composite cooking apparatus control method according to claim 14, further comprising:

detecting current of an inverter which supplies driving power to the induction heater; and
heating and cooking the food using a heater suitable for the cooking container
depending on the detected current.

16. The composite cooking apparatus control method according to claim 15, further comprising:

heating food in the cooking container in an induction heating manner if the detected current is equal to or greater than a set value, while heating the food in the cooking container in a plane heating manner if the detected current is less than the set value.

17. The composite cooking apparatus control method according to claim 14, further comprising discharging air heated by the heater to outside of the composite cooking apparatus by driving a cooling fan motor at the time of heating and cooking using the heaters.

18. A composite cooking apparatus on which a cooking container containing food is to be placed, comprising:

a plane heater;
an induction heater; and
a controller that determines whether the material of the cooking container is suitable for induction heating depending on a detected current in the induction heater and operates
the induction heater if the detected current in the induction heater is equal to or greater than a set value, and
the plane heater if the detected current is less than the set value.

19. The cooking apparatus according to claim 18, wherein during a normal cooking mode, one of the plane and induction heaters operate.

20. The cooking apparatus according to claim 19, wherein during a rapid cooking mode, the plane and induction heaters operate.

21. The cooking apparatus according to claim 20, further comprising a cooking command setting unit on a front thereof.

22. The cooking apparatus according to claim 21, further comprising a heat resistant glass plate on an upper casing of the cooking apparatus.

23. The cooking apparatus according to claim 22, wherein the plane heater and the induction heater are below the heat resistant glass plate.

24. The cooking apparatus according to claim 23, wherein the plane heater is on a top of an air discharge duct.

25. The cooking apparatus according to claim 24, wherein the induction heater is below the air discharge duct.

26. The cooking apparatus according to claim 25, wherein the induction heater comprises:

a working coil to generate high frequency current depending on driving power supplied from an inverter; and

a support to support the working coil.

27. The cooking apparatus according to claim 26, wherein the working coil is separated from the plane heater.

28. A method of controlling a composite cooking apparatus, including a plane heater and an induction heater, the method comprising:

setting a cooking command;

detecting current at an inverter which supplies driving power to the induction heater;

inductively heating food if the detected current is equal to or greater than a set value;

and

plane heating food if the detected current is less than a set value.

29. The method of controlling a composite cooking apparatus according to claim 28, further comprising discharging air heated by the heater to outside of the composite cooking apparatus by driving a cooling fan motor at the time of heating and cooking using the heaters.